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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/675,724      | 09/30/2003  | C. Brian Atkins      | 200308888-1         | 6372             |

22879 7590 04/09/2007  
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| EXAMINER |
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VU, KIEU D

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| ART UNIT | PAPER NUMBER |
|----------|--------------|

2173

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS                               | 04/09/2007 | PAPER         |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/675,724

Applicant(s)

ATKINS, C. BRIAN

Examiner

Kieu D. Vu

Art Unit

2173

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. This Office Action is responsive to the papers filed on 09/30/03 and 03/01/04.
2. Claims 1-21 are pending.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by  
Goldenberg ("Automatic Layout of Variable-content Print Data", August 2002).

Regarding claims 1, 8, and 15, Goldenberg teaches a method for locating objects by assembling a layout of objects within a space (layout print objects in a space, section 3 "The program", page 11), comprising: generating a tree structure having at least one node and at least one leaf (slicing tree in Fig. 2, section 3.2.1), where each leaf corresponds to one object (print object); characterizing a bounding box for each node in the tree structure (layout space reserved for a given tree), wherein a bounding box for each node includes all objects in any subtree below the node; and assigning regions within the space for each node in the tree structure in accordance with the bounding box associated with the node (assigning layout regions for each objects) (Fig. 14, page 26).

Regarding claims 2, 9, and 16, Goldenberg teaches each object has a fixed aspect ratio and a relative area proportion associated therewith, and said characterizing comprises: establishing a relative area proportion and aspect ratio for each node as a function of relative area proportions and aspect ratios of children of the node (section 6.2 "Controlling the aspect ratio", section 6.2.2 "Incorporating the aspect ratio into the area calculation").

Regarding claims 3, 10, and 17, Goldenberg teaches adjusting relative area proportions of at least one child of each node and all children thereof so that predetermined dimensions of the children are equal, performed prior to said establishing (section 6.2.3 "Allowing relaxation of the aspect ratio constraints").

Regarding claims 4, 11, and 18, Goldenberg teaches determining right and left child relative area proportions and aspect ratios (section 6.2 "Controlling the aspect ratio", section 6.2.2 "Incorporating the aspect ratio into the area calculation"); determining performance metrics for left and right children and comparing those performance metrics; and determining node relative area proportion and aspect ratio based on compared performance metrics and left and right child relative area proportions and aspect ratios (Fig. 1-2, 10-11).

Regarding claims 5, 12, and 19, Goldenberg teaches determining right and left child relative area proportions and aspect ratios (section 6.2 "Controlling the aspect ratio", section 6.2.2 "Incorporating the aspect ratio into the area calculation"); determining a factor for the node based on left and right child relative area proportions

and aspect ratios; and multiplying relative area proportions for one child and all its children by the factor (section 6.3 "Grouping items together").

Regarding claims 6, 13, and 20, Goldenberg teaches scoring the tree structure subsequent to said assigning ("scoring solutions"); generating a different tree structure; performing said characterizing and assigning for each node in the different tree structure; scoring the different tree structure; and passing one of the tree structure and different tree structure having a higher score ("The highest fitness score in every generation") (section 3.3).

Regarding claims 7, 14, and 21, Goldenberg teaches reassigning objects to leaves within the tree structure after said characterizing and assigning, and repeating said characterizing and assigning for the reassigned objects (Fig. 15 illustrates a reassignment of the same seven-module dataset as Fig. 14).

5. The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach assigning layout regions for objects in a predefined space which relates to the instant application.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kieu D. Vu. The examiner can normally be reached on Mon - Thu from 7:00AM to 3:00PM at 571-272-4057.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca, can be reached at 571-272-4048.

The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

571-273-8300

and / or:

571-273-4057 (use this FAX #, only after approval by Examiner, for "INFORMAL" or "DRAFT" communication. Examiners may request that a formal paper / amendment be faxed directly to them on occasions).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kieu D. Vu

Primary Examiner